

Fig.1 Prior art DC coupled laser diode driver

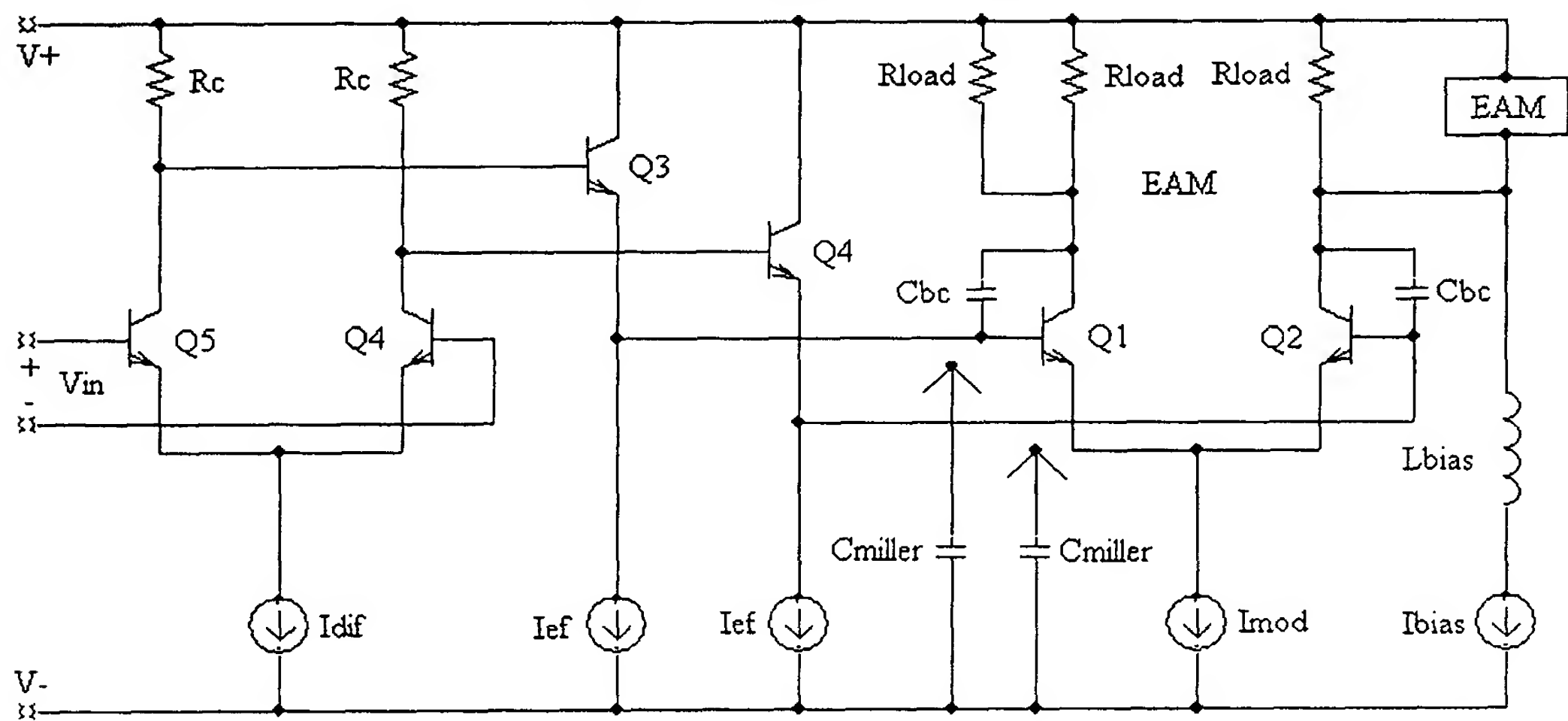


Fig.2 Prior art DC coupled EAM driver

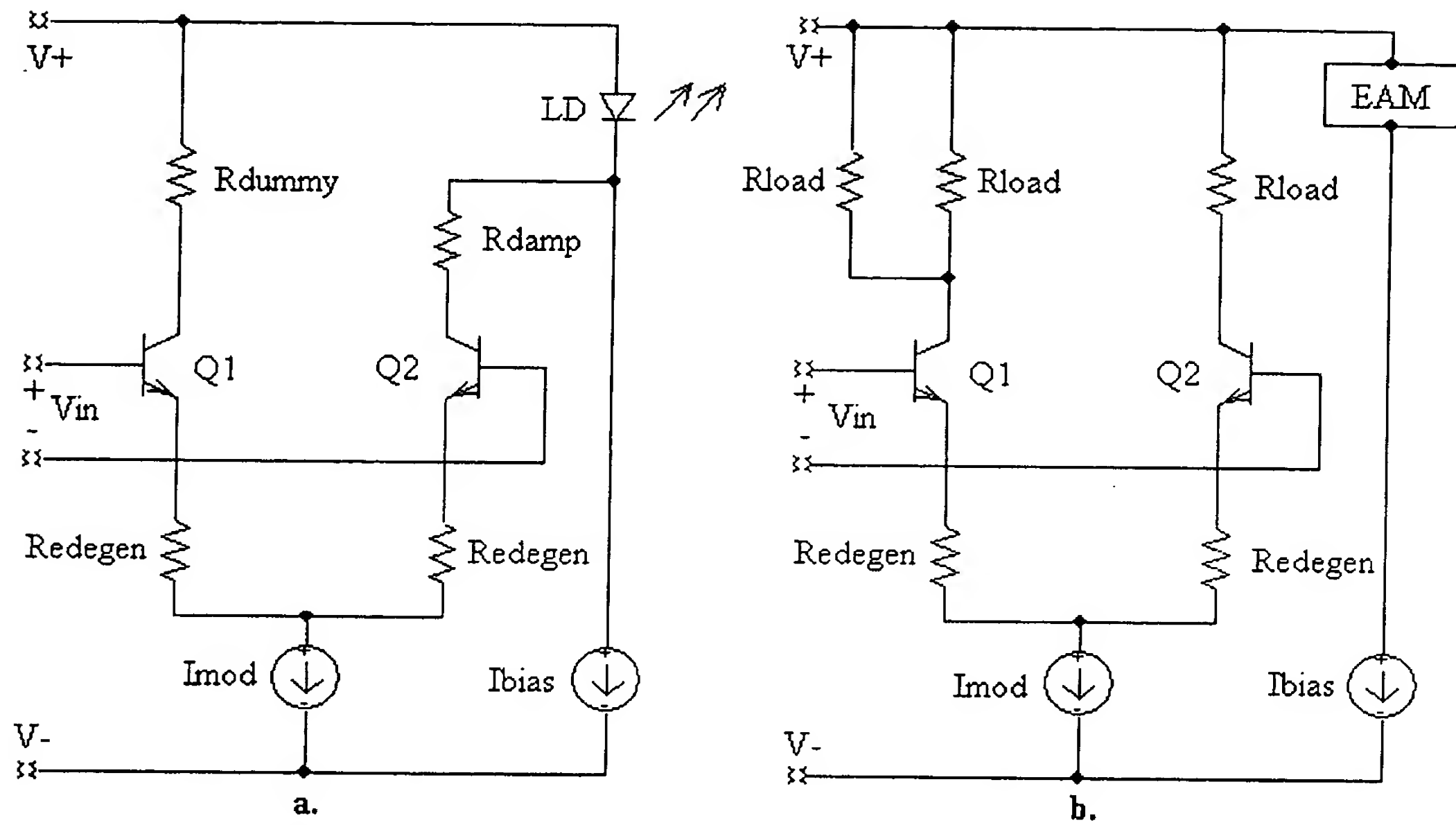


Fig.3 Output switch with emitter degeneration a. LD driver b. EAM driver

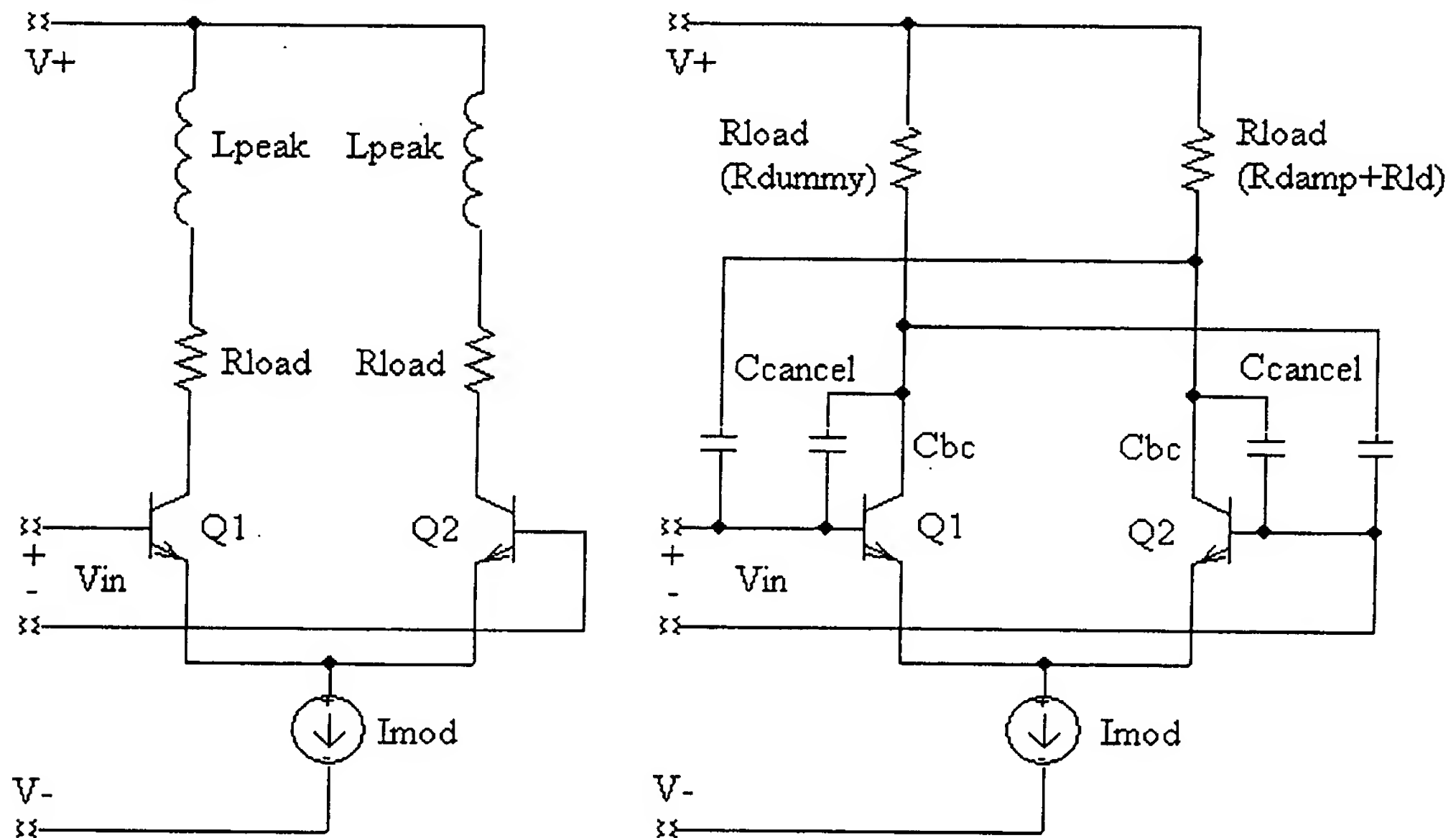


Fig.4 Output switch with inductive peaking Fig.5 Output switch with Miller compensation

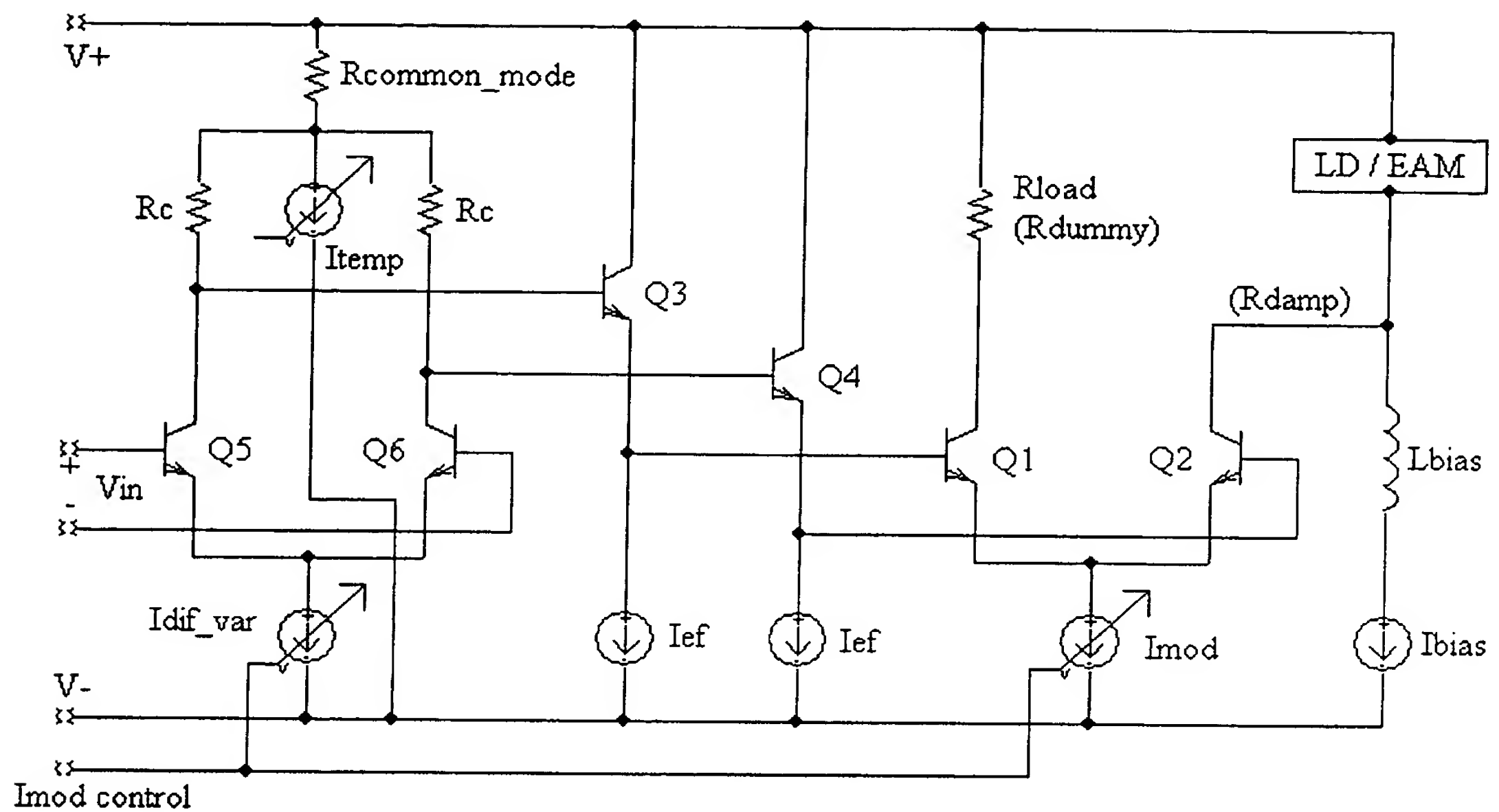


Fig.6 LD/EAM driver with temperature compensation of the output switch headroom

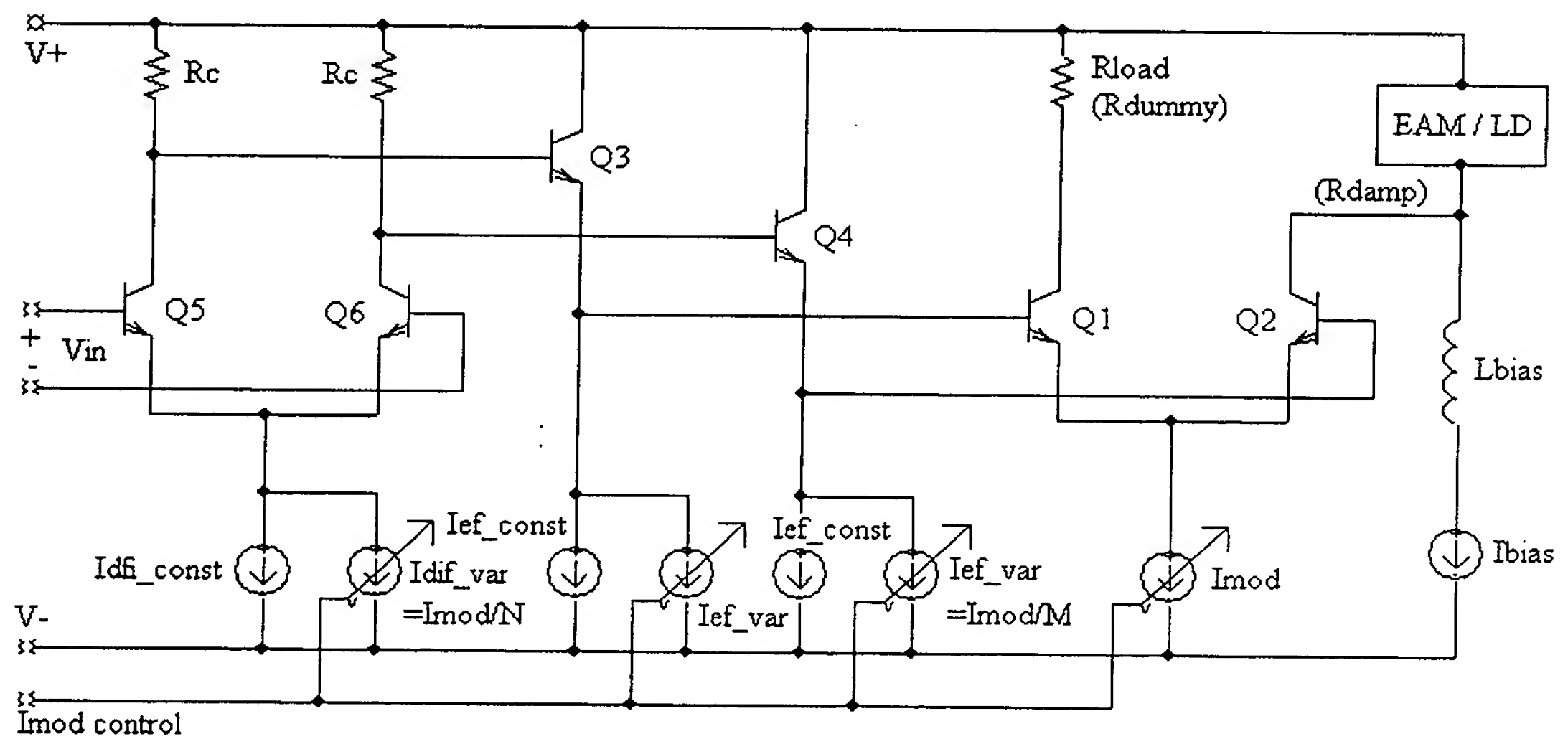
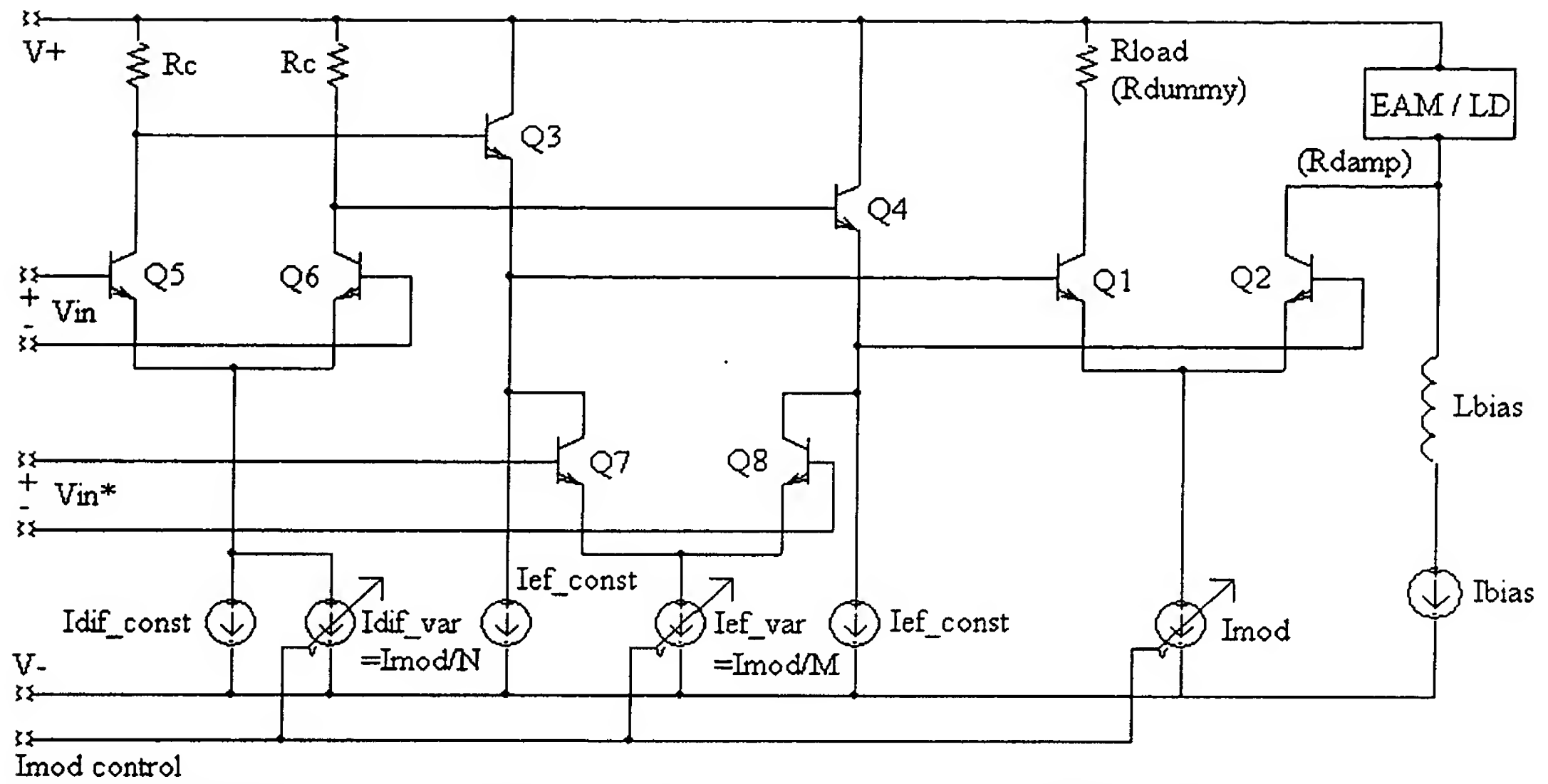
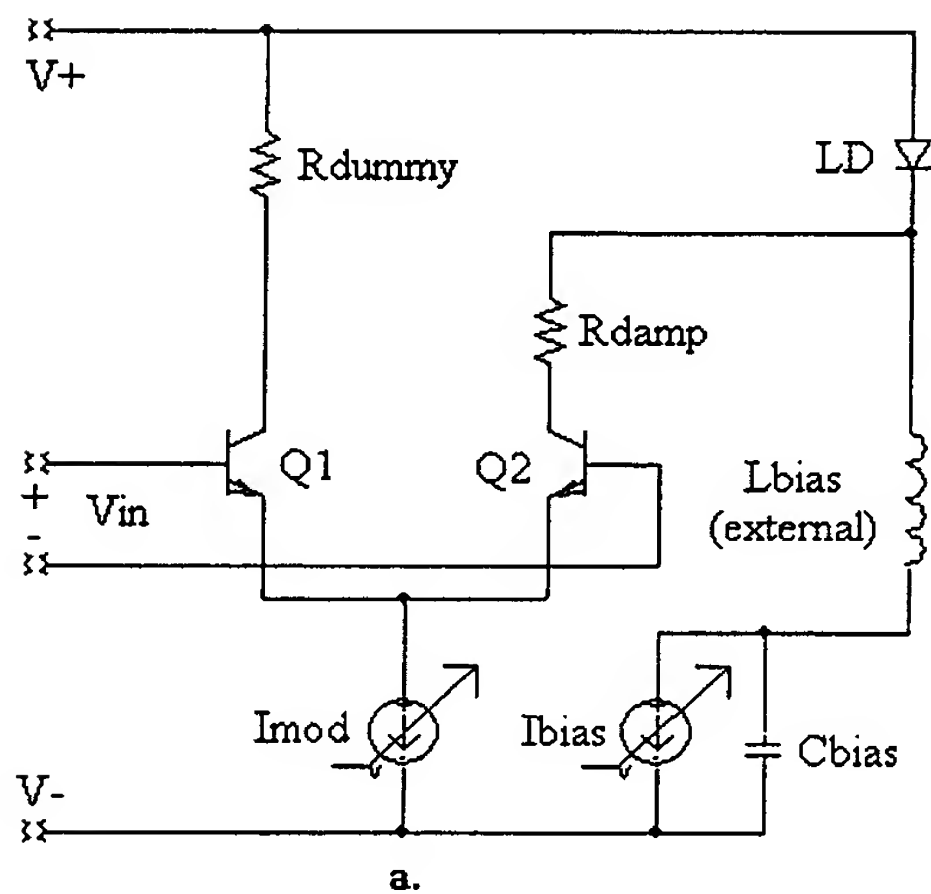


Fig.7 LD/EAM driver with modulation current dependence of the predriver current level and voltage swing

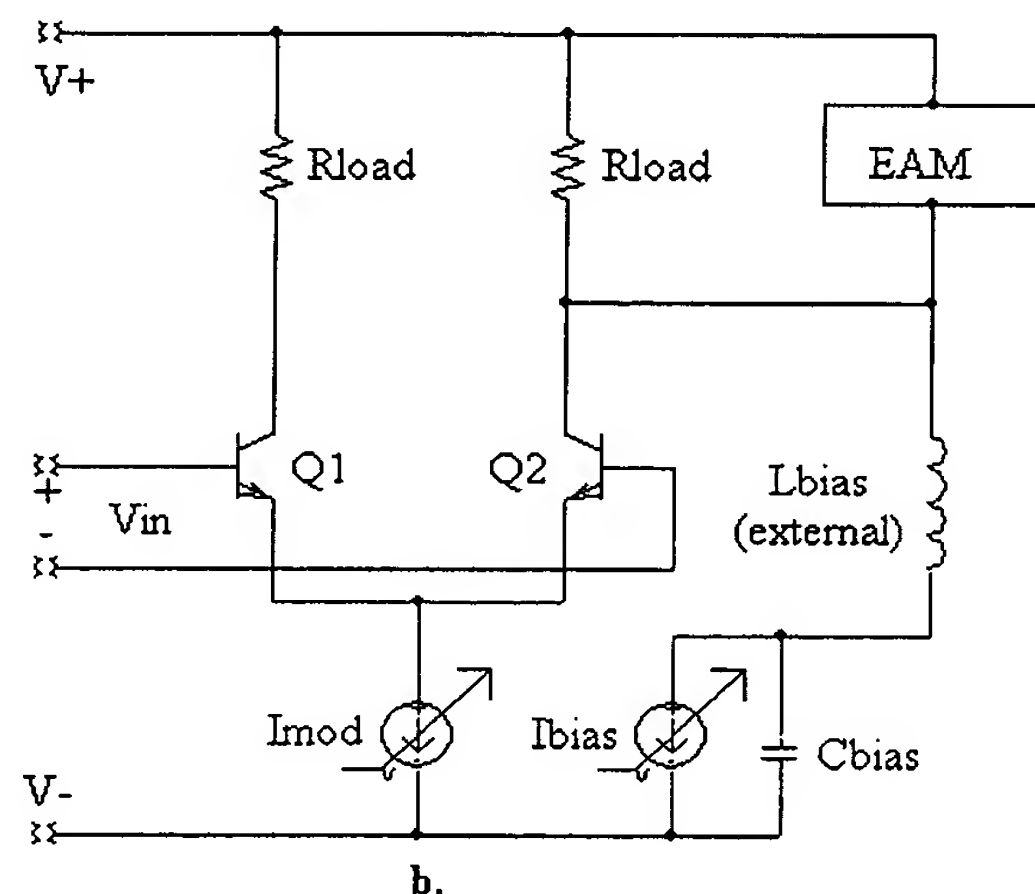


Imod control

Fig.8 LD/EAM driver with dynamic emitter follower to assure different turn-on and turn-off driving currents



a.



b.

Fig.9 LD/EAM driver with off-chip summation of the modulation and bias currents using a high value inductance

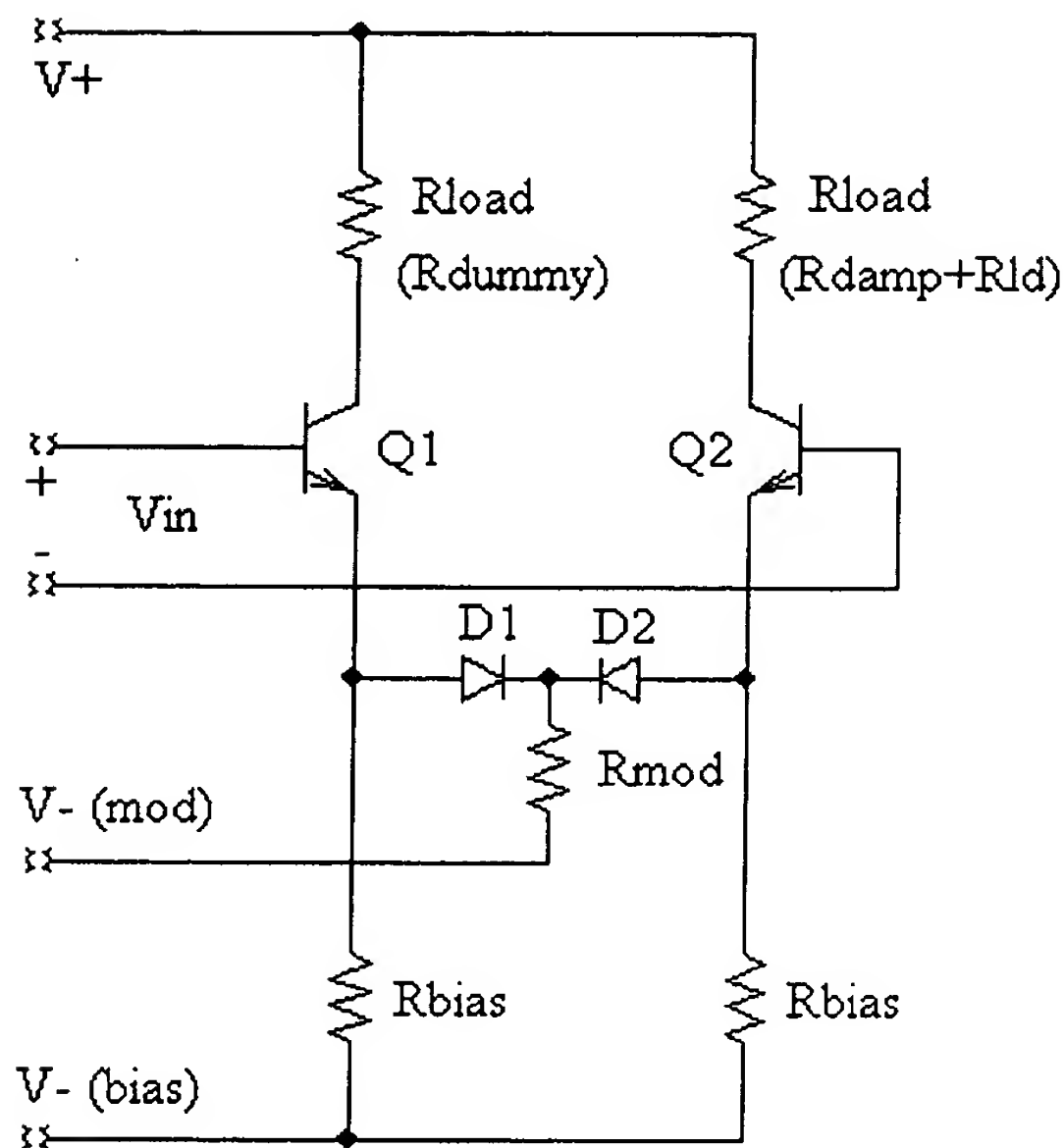


Fig.10 LD/EAM driver that eliminates the separate bias current by using a differential pair that switches between two on-state current levels

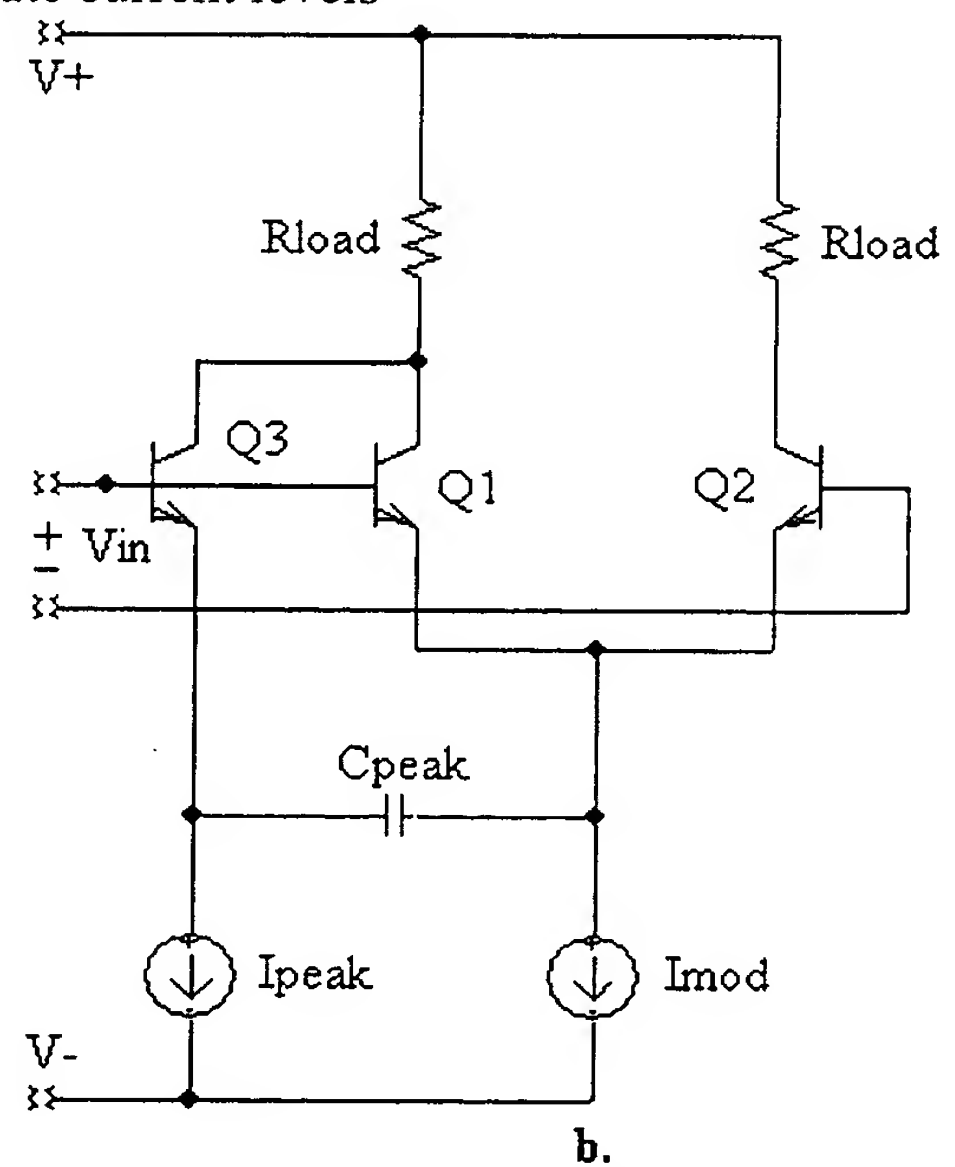
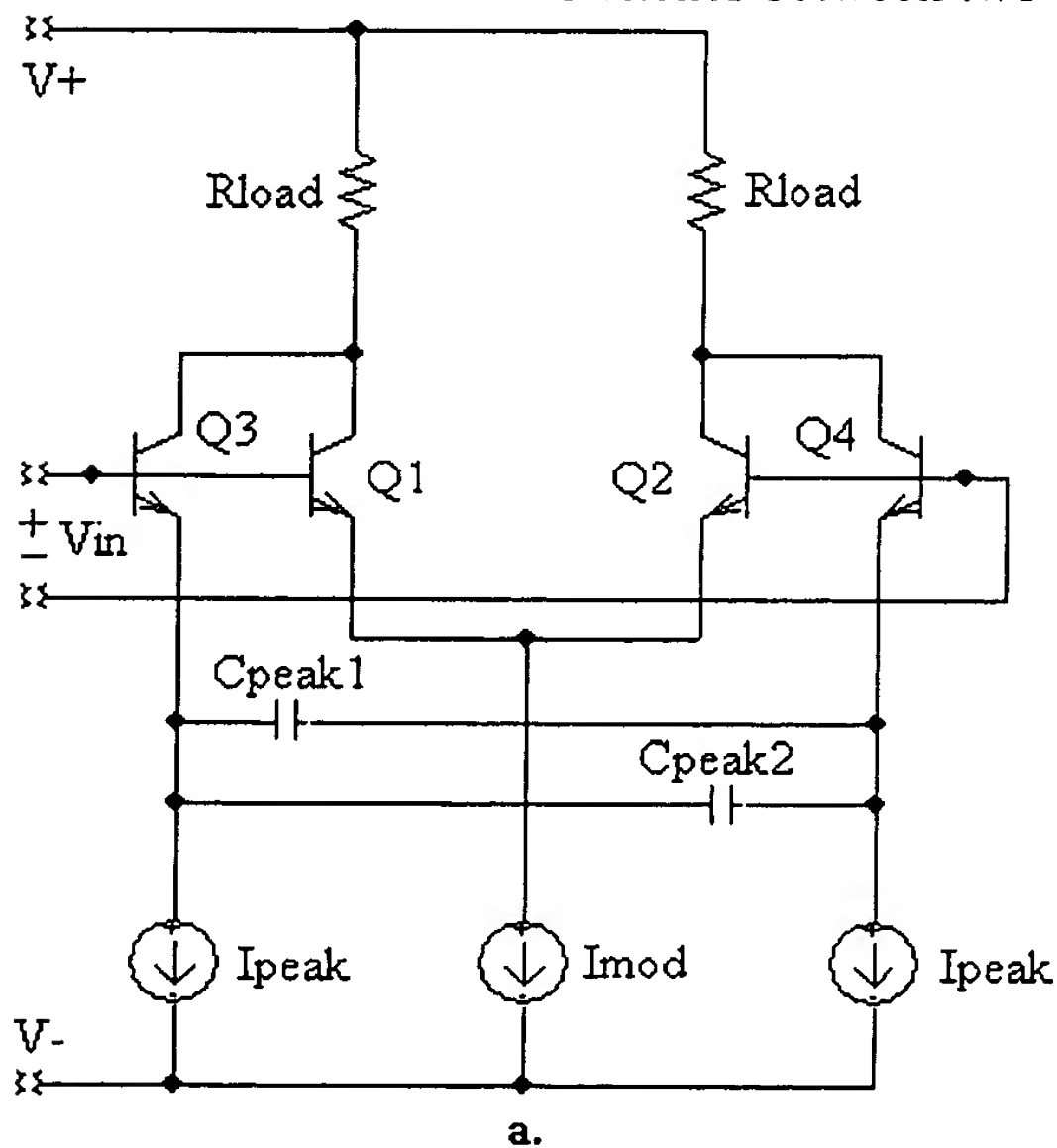


Fig.11 Dynamic emitter follower used to reduce the output overshoot: a. balanced dynamic emitter follower, b. one-sided dynamic emitter follower

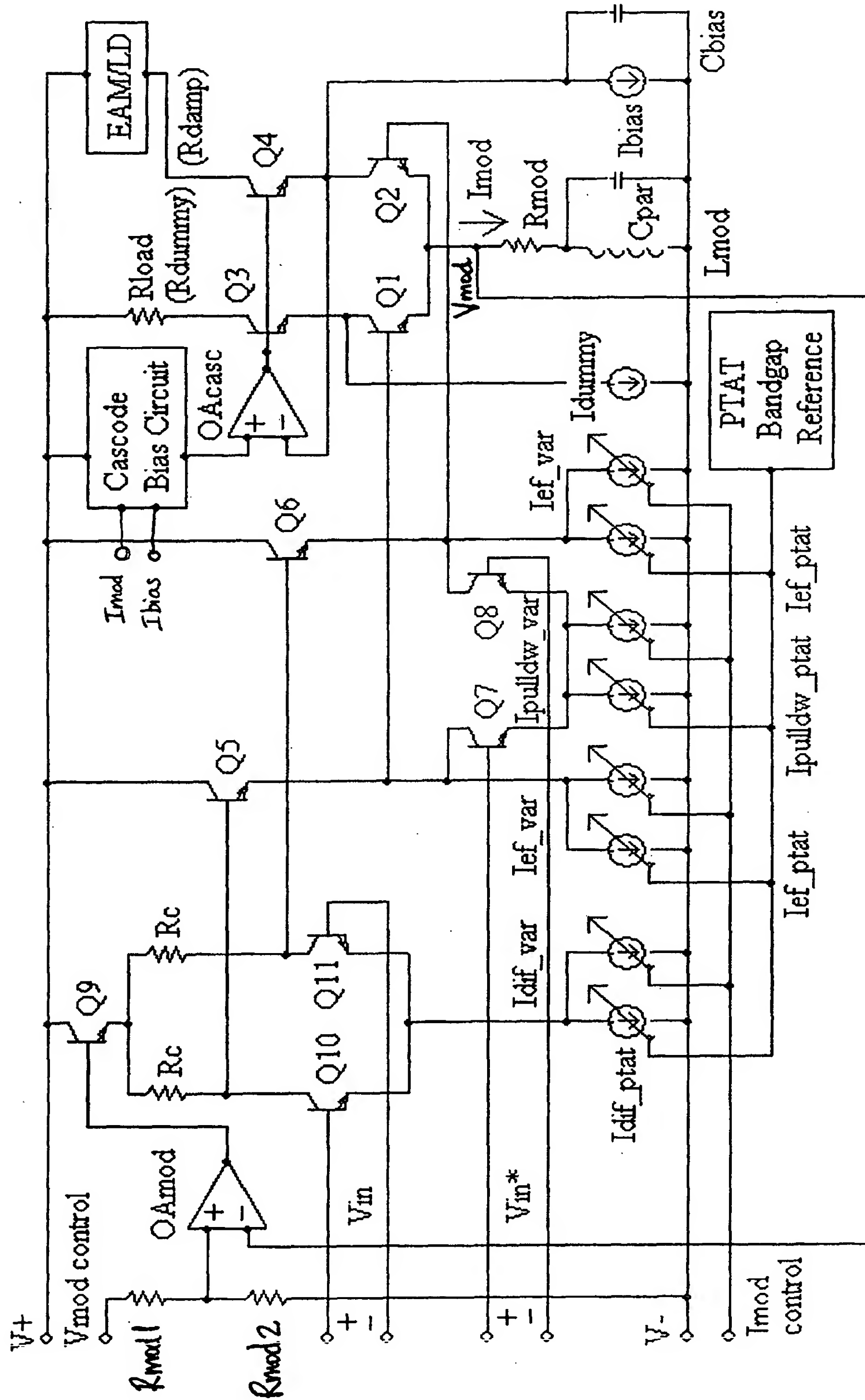


Fig.12 Cascode output switch LD/EAM driver architecture

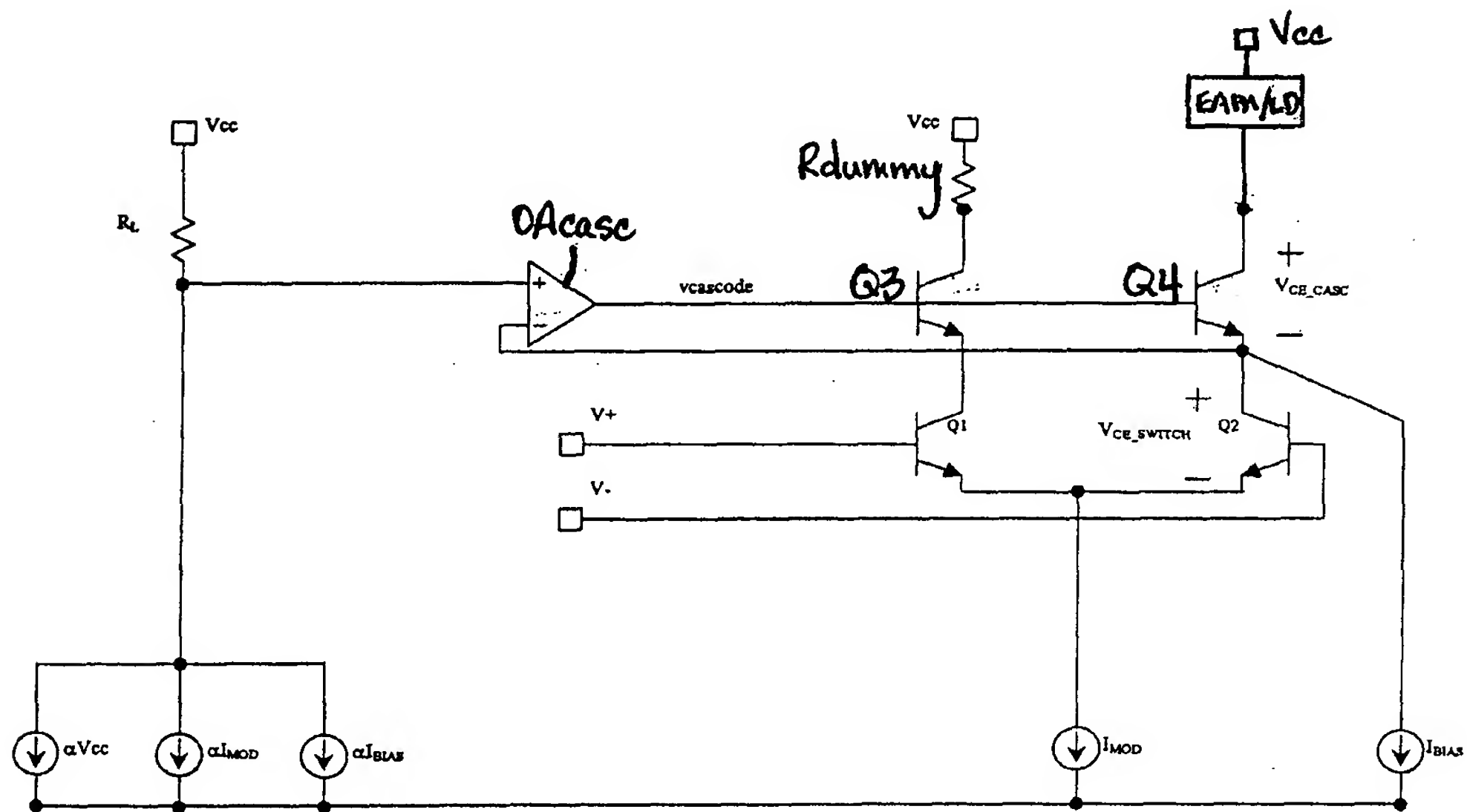


Figure 12a Cascode Bias Circuit

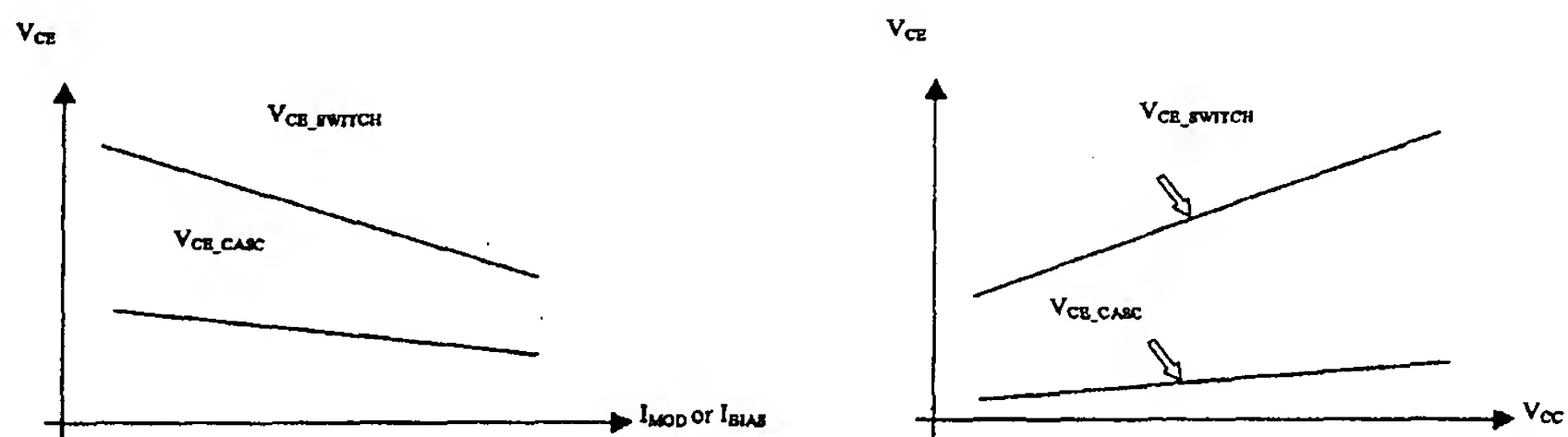


Figure 12b Cascode Bias Circuit Response

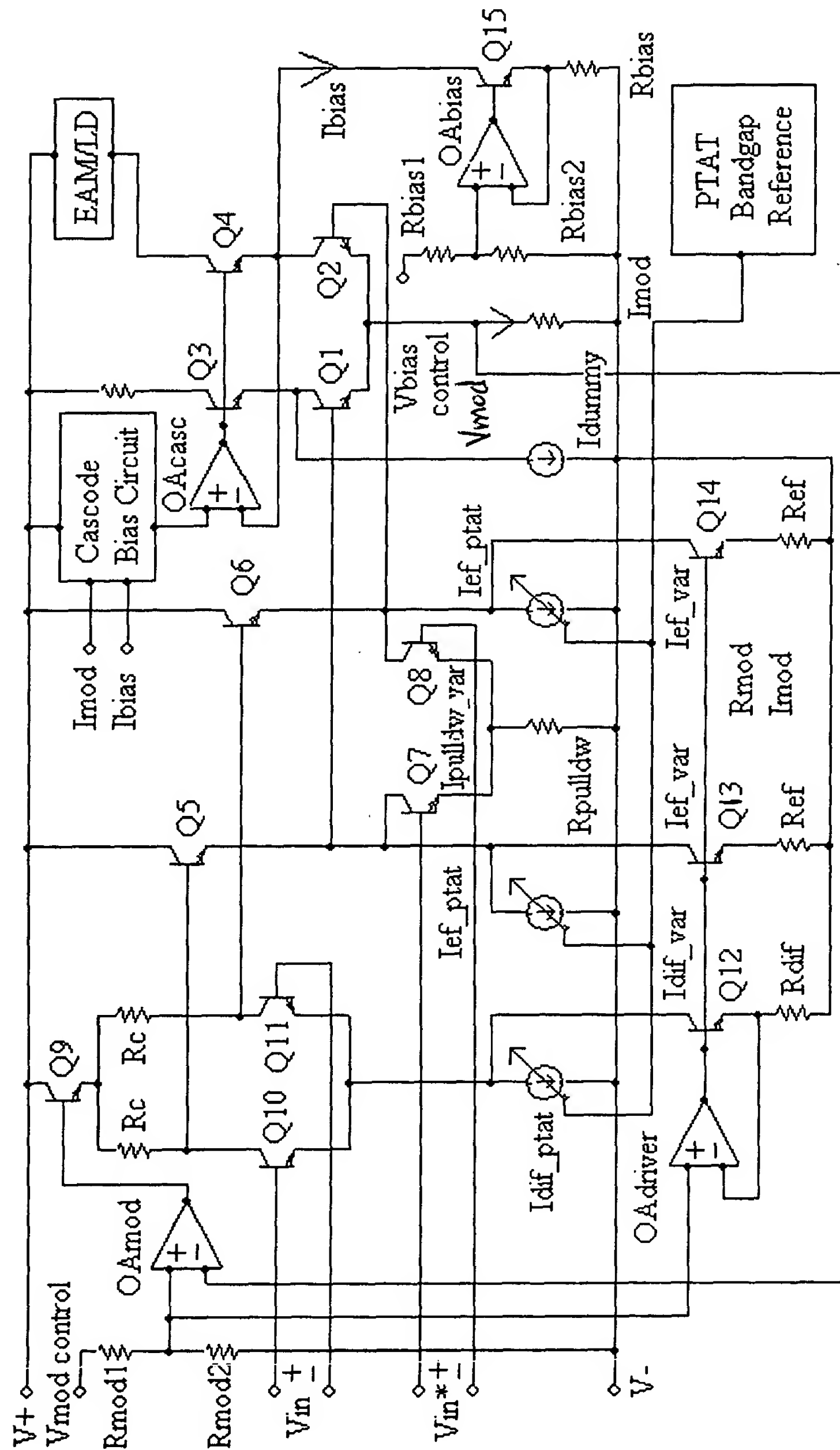


Figure 13

First Embodiment of the cascaded output switch LD/EAM driver architecture

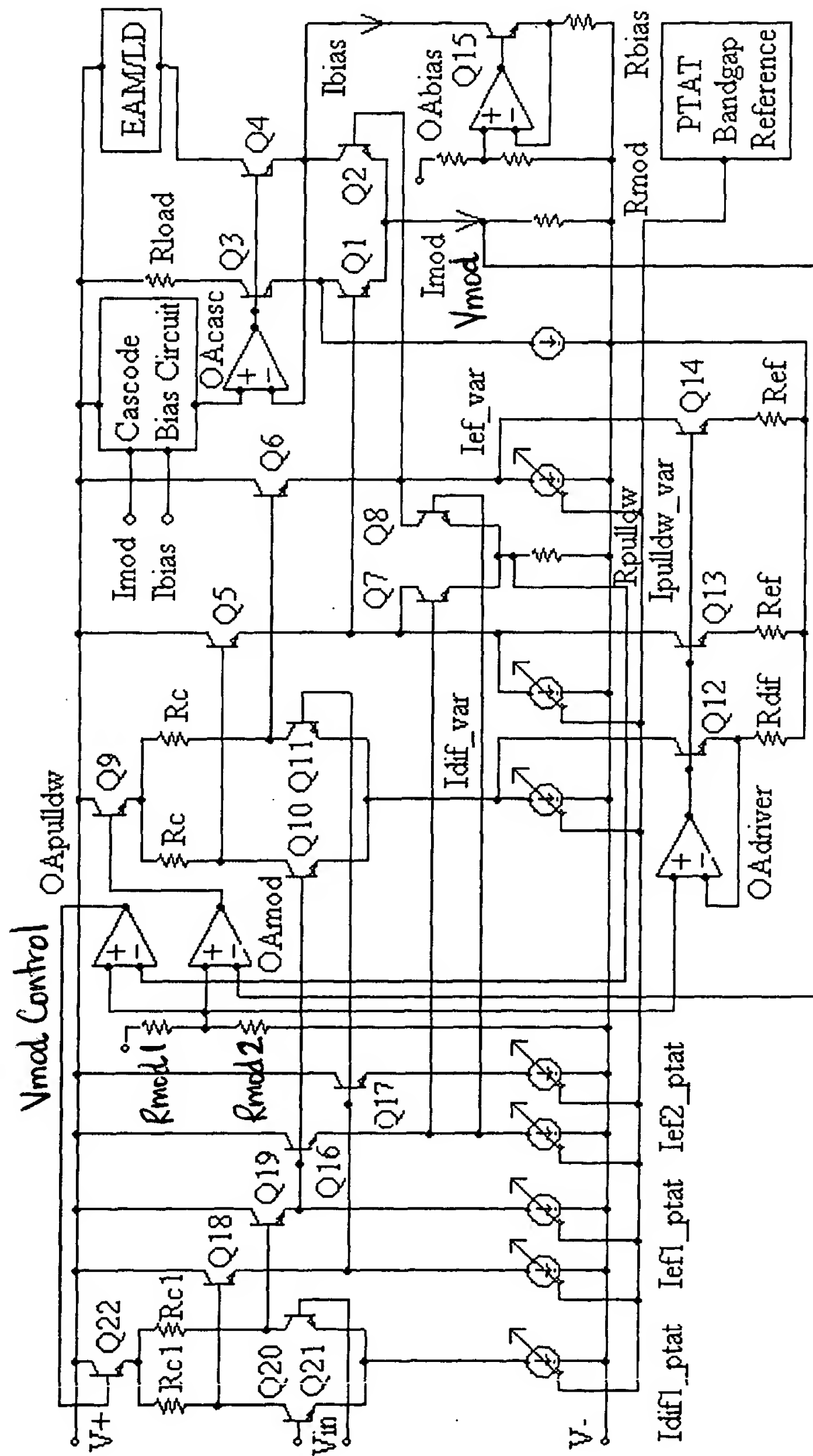


Figure 14
 Second embodiment of the cascoded output
 switch LD/EAM driver architecture